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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,389	03/30/2001	Mark Peterson	20030/64:1	7364

3528 7590 06/27/2003

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EXAMINER

CRUZ, MAGDA

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/823,389	PETERSON, MARK	
	Examiner	Art Unit	
	Magda Cruz	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3/30/01</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. In claims 1 and 2, the phrases "first f/number" and "second f/number" render the claims to be indefinite. The applicant is respectfully requested to define said phrases.

- b. Claims 3-13 falls with the parent claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurtz in view of Potekev et al.

Kurtz (US Patent Number 5,754,278) discloses, an apparatus (1) for increasing a brightness of the projected image (column 2, lines 39-40) comprising: an illumination source (10) propagating light rays (11) along an optical axis; an anamorphic optical device (20) receiving the light rays (11) and forming an anamorphic incident illumination bundle (column 3, lines 18-23), wherein the illumination source (10) further includes an arc lamp (column 4, line 50) and a reflector (13), the first f/number is about twice the second f/number (column 9, lines 6-33), wherein the anamorphic optical device (20) includes a collimating lens system, first and second flyseye lenslet arrays (25, 30), and an imaging lens system (50), the first flyseye lenslet array (25) includes an array of first lenslets (28) each having a lenslet aspect ratio (column 5, lines 58-62). The first (25) and second (30) flyseye lenslet arrays include arrays of respective first (28, 33) and second (29, 34) lenslets, the first lenslets (28, 33) each having a center of curvature that is offset to steer the light rays toward corresponding ones of the second lenslets (29, 34) for optimal light transmission efficiency (column 5, line 54 through column 6, line 8).

Kurtz teaches the salient features of the present invention, except a micro-electromechanical display device ("MDD") including an array of micromirrors that each pivots on a hinge axis and an anamorphic light tunnel. However, Kurtz shows a sensor (60) to receive the light and to generate a sequence of signals corresponding to an

illuminated region of an image (column 4, lines 41-44), and discloses that a light tunnel can be used in his invention (column 4, lines 25-27).

Potekev et al. (US Patent Number 6,419,365 B1) teaches a multimedia projector (90) in which a micro-electromechanical display device (50) including an array of micromirrors (column 5, line 17) that each pivot on a hinge axis (column 5, lines 18-19), whereby the MDD (50) provides a projected image by receiving an incident illumination bundle (column 5, lines 9-17), wherein the incident illumination bundle illuminates the MDD at an oblique angle (Figure 7), wherein anamorphic light tunnel (92) having orthogonal height, width, and length dimensions (column 6, lines 7-8), an input aperture (102) with a first height and a first width for receiving the light rays (column 6, lines 13-16), and an output aperture (94) having a second height and a second width for forming the anamorphic incident illumination bundle (column 6, lines 16-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the MDD disclosed by Potekev et al. in substitution of the sensor from Kurtz's invention, and a light tunnel disclosed by Potekev et al. in combination with Kurtz's invention, for the purpose of improving the uniformity and brightness of images produced by color video projection displays (column 1, lines 15-16).

Allowable Subject Matter

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach a multimedia projector, comprising in combination with the additionally recited elements, a first and second flyseye lenslet arrays are tilted about the optical axis such that the anamorphic incident illumination bundle has an elliptical cross section having a major axis that is substantially aligned with the hinge axis of the micro-electromechanical display device ("MDD").

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Doherty, et al. (US Patent Number 5,592,188) discloses a method and system for accentuating intense white display areas in sequential DMD video systems.

Ilkov, et al. (US Patent Number 6,523,961 B2) teaches a projection system and mirror elements for improved contrast ratio in spatial light modulators.

Peterson, et al. (US Patent Number 6,517,210 B2) shows a shortened asymmetrical tunnel for spatially integrating light.

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Koyama (US Patent Number 6,260,974 B1) discloses an image projecting apparatus comprising a reflection type optical modulating device for modulating the light beams from the second end surface, and a projection optical system for projecting an image of the reflection type optical modulating device on a screen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (703)308-6367. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703)308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.


RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNICAL CENTER 2000

Magda Cruz
Patent Examiner
June 24, 2003